# This Page Is Inserted by IFW Operations and is not a part of the Official Record

## BEST AVAILABLE IMAGES

Defective images within this document are accurate representations of the original documents submitted by the applicant.

Defects in the images may include (but are not limited to):

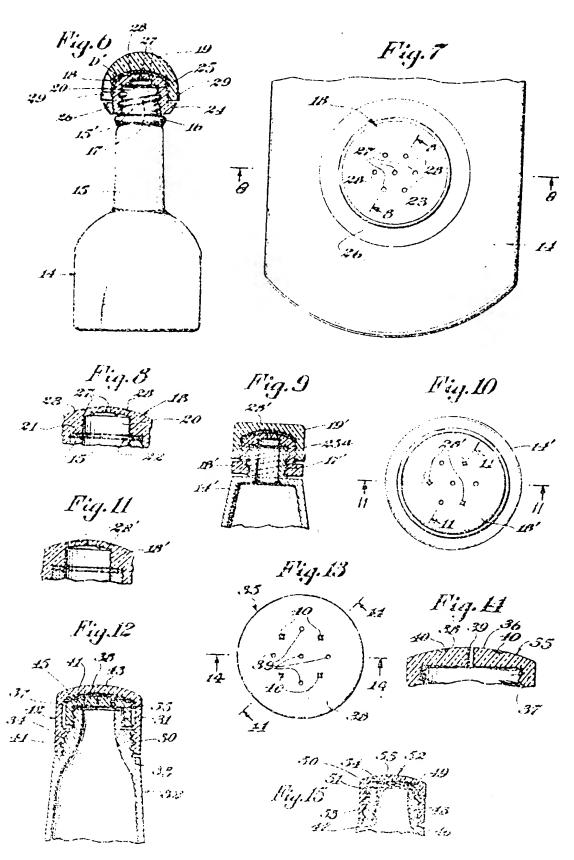
- BLACK BORDERS
- TEXT CUT OFF AT TOP, BOTTOM OR SIDES
- FADED TEXT
- ILLEGIBLE TEXT
- SKEWED/SLANTED IMAGES
- COLORED PHOTOS
- BLACK OR VERY BLACK AND WHITE DARK PHOTOS
- GRAY SCALE DOCUMENTS

# IMAGES ARE BEST AVAILABLE COPY.

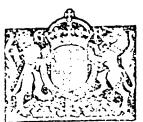
As rescanning documents will not correct images, please do not report the images to the Image Problem Mailbox.

SHEET I Fig. 2 111 Fig. 3 Fig. 1

X



### PATENT SPECIFICATION



Convention Date (United States): Aug. 1, 1933.

425,867

Application Date (in United Kingdom): July 31, 1934. No. 22318/34.

Complete Specification Accepted: March 22, 1935.

18. 1214 1000

#### COMPLETE SPECIFICATION

#### Device for Applying a Deodorant Solution or the like to the Skin

We, WHITAM R. WARSER & COMPASSE. Lameren, of 300, Gray's Lun Road, London, W.C.I. England, a British corporation, do hereby declare the nature of 5 this invention and in what manner the same is to be performed, to be particularly described and ascertained in and by the following statement:

This invention relates to a device for 10 applying a decelorant solution of the file to the skin.

Among the objects of the present invention, it is aimed to provide an applicator for deciderants or the like censisting in a 15 head for the container of the decolorant which is preferably composed of a substonce, such as a phenel-formal-blade e andersation product which is most to any chemical reaction with the average de-Thodorant solution and which may be notished to a smooth surface maish, devoid of any irregularities, hims, forts, and the like to insure against any inful; to the skin of the user, such as seratches, about 25 sions or the like.

It is still another object of the present invention to provide an applicator head composed of a phenol-formaldelistic condensation product or other substance theft 30 to any chemical reaction with the average deodorant solution and which may be so formed that no portion of the centa her which may be composed of glass or the like can even accidentally be brought into 35 engagement with the skin or the user and which head may be polished to a smooth surface finish devoid of any irregularities. fins, burs and the like to insure the user against any injure to the skin.

It is still a further object of the present invention to provide an applicator lead. composed of a phenolstormally byte consideration and duct of the line substance. which is reachled with order in the events 45 into the the passage of the decidence of the the skin et the user, which equality on openings enverge in the skir obsculing surface of the head a Pacont to weigh eponing or enonings there are presided 50 my lace the set discourse stages, as a series of the like to the cosmologic entropy . On the contract of the state of the state

uniform spreading of the liquid over the surface to be treated.

It is still another object of the present invention to provide a cap for the head Laying a seal consisting of one or more dises composed of cork, paper, fiber or the like which may be implinged between the cap and face of the head in which the openings emerge effectively to close and seal such openings and thus protect the contents from discharge between the head and the cap during shipment or the like.

In the accompanying drawings: Figure 1 is a side elevation of a conminer equipped with one embodiment of the improved applicator and cap showing

the cap in section;

Fig. 2 is a section on the line 2 -2 of Fig. 1;

Fig. 3 is an enlarged transverse section partly broken away of a portion of the container equipped with the embedament illustrated in Fig. 1:

Fig. 4 is a bottom plan of the applie dor hend shown in Fig. 3:

Fig. 5 is a section on the line 5-5 of Fig. 4;

Fig. 6 is a side elevation of another type of container equipped with another embodiment of the improved applicator and cap showing the applicator and cap in section;

Fig. 7 is an enlarged plan partly broken away of the econodiment illustrated in Fig. 6 with the cap removed:

Fig. 8 is a section on the line 8 8 of Fig. 7;

T'g, 9 is a transverse section partly backen away of a partien of still another type of container equipped with str mother embodiment of the improved applicator and enpr

The 10 is an online option of the applicator with the cap to accept:

Fig. 11 is a section on the lime II of The 19.

The Prison transverse series seeming poor a configuration of Manother type and out to a soften on the pro-process to the transfer of the con-traction of the property for the configuration

of the complete of the complete of the first

5.5

(1)

80

9.5

Fig. 11 is a tragmental section on the line 14 (1) of Fig. 13; and

Fig. 15 is a transverse section partly broken away of still another type of 5 container equipped with still another embodiment of the improved applicator

In the embodiment shown in Figs. 1 to 5 inclusive, there is provided a container 10 I which is preterally composed of glass or the like baying a diminished neck ? with an integral threal 3 formed thereon. The inner periphery of the neck 2 is preterably provided with an annular recess 1 15 adjacent its outer edge baying a shoulder tuce 5 spaced from the outer substantial:

plane face 6 of the neck 2.

On the shoulder two 5, there rests the lower three 7 of the applicator head por-20 tion 8 having formed thereon an inwardly extending skirt 9, an outer convex face 19, openings 11, five in the present instance, extending through the head portion S to establish communication inwardly of the 25 shirt 9 between the exterior and interior of the container I, and recesses or depressions, such as the peakers or saction our s 12, see Fig. 5, receding from the convey thee 10 of the Lead portion S. For 30 inchoring the head 8 in the neck 2, there is provided the annulus 13 composed of cork or other suitable compressible material, immune to chemical reaction with the declinate solution of the 35 annulus is impliged between the outer periphery of the skirt 9 and the laner periphery of the neek 2 below the recess 1

with the lower face 7 of the head Sengage Fig. the shoulder tace  $\delta$  of the recess 1. The applicator head 8 is preferable composed at some suitable suistance in tunne or inert to chemical reaction with the ordinary deodorant solution generally

composed of aluminum elderate in solu-45 then. This head 8 may as an instance becomposed of a phanol-tornal delic procesdensation product which is not only Funnume to chemical reaction with the endinary deaderant solution as alonesaid

59 but in audition lends itself admirably to have formed thereon a smooth tollshol trish, especially for the time 10, devel of all irregularities, on vices, these bors

or of the like

. The pockets 12 cooperate in the use of the riplicator to break the surface forer er et die die die blieber in er die die besch a turn to the Higher the even had up here. were ling of the deciberate solution over parthe dig governations

In the connection bearing at the Page of A. Harrison and M. Letter april 1884 A form a distribution of a mass of a comparison of the comparison

equally spaced from one another in an asnular tow concentric with the central opening 11. The pockets 12 are disposed in the same concentric row with one pocket latacen each two openings II.

When not in use to protect the contents from discharge and similarly to proteet the face 40 from injury, the cap C is provided which has an internal thread 31 to engage the thread 3 of the container 1 and an inner face 101 conforming substantially to the face 10 of the head 8. Between the face 101 of the cap C and the ince 10 of the head S, there are preterably provided as illustrated in Fig. 1. a plurality of layers or discs D composed of cork, paper, fiber or the like compressible material which are immune to chemical reaction with the deodorant solution and which will be impinged between the faces 101 and 10 to seemely seal the openings 11. It is of course obvious that it this seal is disposed intimately to engage the face 6 of the container I, it will prevent the liquid from escaping. This advantage is of course to be retained. But it is not enough since it any considerable quantity of the liquid should be permitted to pass to the outer surface 10 of the head 8, it will of course constitute a loss. This loss can be effectively avoided and at the same time the face 10 of the head S properly protected from inputy when the seal D is pressed into intimate engagement with 196. this head to shur off and positively seal the openings 11.

In the embediment shown in Figs. 6, 7 and 8, there is illustrated a container 14 preterably composed of glass laving an 10% clongated narrow neek 15 provided with a daminished portion 15° defined by an sunular head 16 from the main neck pertion 15. The diminished neck portion To is preterably provided with an 1.9

. Actual thread 17 termed thereon

In the present embodiment, the applicutor lead 18 and cap 19 constitute a substantially spherical shaped hody in outword appearance when the cap 19 is in 115 closed position as illustrated in Fig. 6. The head 18 is provided with an internal thread to engage the thread 17 of the neck berries 15 and is provided with a charebered pertion 20 above the annular 129 shorter 21. The shoulder 21 has inc placed between it and the outer free odge et the met notion is a posting the W protectably compressed of one or more by our ere are or any other suited accommessible 125 material description of the property of the state with the description.

The superior of the state of the in the Epster Commence 

**高級の表現の表現の表現の表現である。** 

10

15

20

25 -

35

41).

1.,

7,4 Y +

425,867

ties, burs or the like. The head 18 number has an enlarged lower portion 24 terminating in a diminished upper por-Gon 25 defined from the lower portion by 5 the plane annular shoulder 26. The outer periphery of the lower portion 24 is partly spherical to conform to the outer spherical periphery of the cap 19 and the outer periphery of the narrow portion 25 is 10 preferably provided with an external thread to receive the internal thread of the can 19. The face of the can 19 apposed to the tace 23 of the head 18 is preferably concave to correspond to the 15 face, 23 and accommodates one or more layers D<sup>1</sup> composed of cork or other suitable compressible material to serve as a reacking and snugly engage the face 23 of the bend 18 to seal the openings 27 20 tormed therein.

In the present instance, the head 18 is provided with four openings 27, three suction pockets or cups 28, the openings forming a communication between the 25 chamber 29 and the exterior of the head 18.

Preferably the lower outer face of the cap 19 is provided with a knurled raised annular area 29 to be engaged by the user to to facilitate turning the cap 19 when temoving or attaching the same.

The threads of the neck portion 151 and of the outer surface of the upper portion To of the head may be inclined in opposite 35 directions to form right and lett hand threads respectively in order to facilitate turning the cap 19 into open position without disturbing the position of the head 18 on the container 14, or else the 40 threads may be inclined in the same direction and have different rates of pitch as indicated, to wit a greater pitch for the thread on the container than on the portion 25 so their it would require less effort 45 to turn the cap relative to the head than to turn the head relative to the container. although an entirely satisfactory device has been produced when the threads were inclined in the same direction and made 50 of the same pitch, it only the head was refewed ento the container fighter than the cap was screwed onto the head.

The embeliaant Plastrated in Figs. 9, 10 and 11 is substantially identical in 55 the embediment illustrated in Figs. 6, 7 and 8 except in the respects now to be provided out.

The curr 10 and bend 18 as an Instance to rether form a substantially cylinder of our form as substantially cylinder of the state author than a substantially appears in closely, the real as a section curs 28 of the shall alternative decreased the state of a section of the estation of the metal of the shallow CS tention 15 illinguages in Fig. 6 and in a

thread 17° is shown as a left hand thread instead of as a right hand thread, while the thread 25° on the upper portion of the cap 18° is right hand.

In the embodiment shown in Figs. 12, 13 and 14, the container has two threaded portions 30 and 31 of different diameters, the diameter of the threaded portion 30 being greater than the diameter of the threaded portion 31, the threaded portion 30 being defined from the main body 32 of the container by the shoulder 33 and the threaded portion 31 being defined from the threaded portion 30 by the shoulder 34.

75

30

In the present embodiment, the applicator 35 has a head portion 36 and a skirt 37. The skirt 37 has an internal thread for engaging the thread of the threaded portion 31 and the head portion 36 has a claves upper face 38, a plurality of openings 39 and star-shaped suction pockets 40.

In the present instance, an annular packing composed of one or more layers. 41 of cork, paper, fiber or the like substance which will not react chemically or otherwise to aluminum chloride in solution or like ingredients of a standard de dorant, is preferably disposed between the free end of the threaded pertion 31 and the imperferate portion of the head 35 to form a seal at such point. To choices the head 36 and thereby protect the applicator face 38 from inputy during 100 shipment and at the same time seal the openings 39, there is provided the cop 12 having a head 43 provided with a conmove inner to a to conform to the tuce 38 of the head 36 and a shirt 44 maying 105 an internal thread to engage the thread of the thrended portion 30. Between the esterive face of the end 12 and the convex time 38 of the head 35 to effect the pretection aforesaid to the tace 38 and to 110 effort the scal of the openings 30, there is preterably impinged a packing or seal consisting of one or more layers or discs Usef paper, cork, fiber or the like.

With the embediments shown in Figs. 11a, 6, 9 and 12 and particularly in Figs. 6 and 9, it will obtains be apparent that due to the skire of the applicator, these speliesters can be used without danger of an action of the glass on triac engage pgn in the skir, are to be treated ever, when used to treat the skir, are a skir, area in the arm steels.

An the embedding of Weitnami is the Minimum of the Mattheway School of the continuous Minimum of the contract part of the contract of the Minimum of the Contract of the Contr

champed a head 50, composed of celluloid or other suitable soft plastic substance baying a high degree of elasticity. This cap [0] has a rolled annular flange

5 at its periptery contorming in size and dimensions to the beat 49 to trictionally engage the bead 49 when pressed into place to anchor the cap 50 against accidental displacement when once posi-

10 tioned on the head 19. The cap 50 is provided with perforations similar to the perforations 39 of the embodiment illustrated in Fig. 15 and also provided with pockets similar to the pockets 40 of the embodi-

15 ment illustrated in Fig. 13.

To elest the applicator head and thereby protect the treatment face of the head 50 from injury, there is provided a cap-52 preferably composed of a phenol-form-20 aldehyde condersation product of the like. having a skir: 53 provided with an inner seres thread to everage the thread 48 of the mock 17, and an upper inner race 51 to experate with the sealing disc 55 com-25 pesed of a plurality of layers of paper. cork, rubber, or the like, similar to the seal D of the embodiment illustrated in Fig. 1, which will be impinged between the treatment thee of the head to and the 30) liner thee 54 of the cap 52 when the cap W is in place.

Having now particularly described and a certained the nature of our said invention and to what manner the same is to 35 be performed, we declare that what we

- Haim is: --

I A device for applying a de dorant solution or the like to the skin embracing a centainer, and a feeding device secured 40 to said container having a head provided with discharge outh is for the decolorant solution, said lead having a smooth finish of treatment tace in which said outlets on age and a plumbity of suction 45 peckets for little from said face to break its system consists of the liquid being discharged, thereby to the liquid being discharged, thereby to the liquid some.

2. A device incording to claim 1 50 wherein the entrainer is composed of glass on the life, at it the feeding device is composed to a detail the tenting device is composed to a detail the tenting device is composed to the trainer three standards of a device being convex, and the succession products being convex, and the succession products being stars being.

A A disk of any fiducial there is chain to a chain to a chain to a chain the state of the chain and the contract of the provided Land to the chain to be contracted as in the

teeding device is provided with an extended skirt secured to and of greater diameter than the exterior of said neck portion, said extended skirt as well as the treatment face of said feeding device, being smoothly finished, devoid of any irregularities, fins, burs or the like whereby the device can be used without danger of any portion of the glass engaging the skin area to be treated even when used in the arm pits.

4. A device according to claim 1 wherein the container is composed of glass or the like and is provided with a head at the outer periphery of its upper end, the feeding device being composed of a material of high clasticity having a carled flange frictionally to engage said head and thereby anchor said device in

place.

5. A device according to claim 4 wherein the feeding device is composed 8 of celluloid or the like clastic substance.

6. The combination with a device according to claim 1 of scaling means consisting of a packing, and a cap having a head and an annular skirt, said head have 3 ing an inner tace conforming in shape to the shape of the treatment face of the teeding device, said skirt also having reternal's row threads to engage external threads formed upon a neck portion recovered upon the container of help here. is of glass, and to which neck said feedther device is so seemed as to be inwardly clear of the thread thereon, said packing consisting of one or more layers of paper of of the like, according to the clearance afforded, and designed to be impinged between sold inner face and treatment tuce when said cap is in place, to seil the discharge outlets.

7. The combination according to claim 6 wherein the feeding device is provided with a skirt, by means of which latter is is secured to the neck of the container.

S. A device according to any one of he chips 1, 1, 5, 6 or 7, wherein the suction

powkets are star-shaped.

17. Devices for applying deodorant solutions or the like to the skin, constructed, and arranged, substantially as described IR with teterence to the accompanying crawings.

Detail this 31st day of July, 1934, J. E. EVANS-JACKSON & Co., (Aneats for the Applicate).